Claims

1. A closure cap (10, 110) for a fixed neck of a container, in particular a motor vehicle radiator, having an outer cap element (16, 116) and an inner cap element (15, 115), wherein the outer cap element (16, 116) has a closure element (17, 117) for the container neck and a grip element (18, 118), which can be rotated in relation to the latter, between which grasping element and the closure element (17, 117) of the outer cap element (16, 116) a twist-prevention device (19, 119) acts, wherein the inner cap element (15, 115) has a flow connection between the interior of the container and the exterior of the container and a valve arrangement for releasing or blocking the flow connection, which valve arrangement has an axially movable overpressure valve body (12, 112), which is pressed under initial tension toward the interior of the container against a seal at the inner cap element (15, 115) in such a way that, when a threshold value of the interior container pressure is exceeded, it can be lifted off the seal, and an underpressure valve body (13, 113), characterized in that the twist-preventing element (19, 119), which can be engaged or is engaged, is disengaged by means of a thermally or pressure-controlled drive mechanism (14, 114) in the form of a capsule (150) made of an expandable material, or of a diaphragm (50), that the drive mechanism (14, 114) is arranged in the outer cap element (16, 116) and is provided with a linearly extending transmitting element (54, 154), which penetrates the overpressure valve body (12, 112) in the cap axis (55, 155) and extends into the area of the inner cap element (15, 115) which is connected with the neck of the container, and that the underpressure valve body (13, 113) is arranged concentrically in respect to the cap axis (55, 155).

2. The closure cap of claim 1, characterized in that the underpressure valve body (13, 113) is integrated with the twist-prevention device (19, 119).

3. The closure cap of claims 1 and 2, characterized in that ~~the~~ twist-prevention device (19, 119) is formed by a blocking plate (27, 127), in the middle region of which, oriented toward the pressure-controlled or thermally-controlled drive mechanism (14, 114), the underpressure valve body (13, 113) is retained in axially spring-loaded fashion.

4. The closure cap of claim 3, characterized in that the underpressure valve body (13) is retained axially movably in a central bore in the blocking plates (27), and a compression spring (66) acting between the underpressure valve body (13) and the top of the blocking plate (27) presses an annular sealing face (65) of the underpressure valve body (13) against the underside of the blocking plate (27).

5. The closure cap of claim 1, characterized in that the underpressure valve body (13, 113) surrounds the elongated pressure- or temperature-transmitting element (54, 154), preferably near the free end of the inner cap element (15, 115).

6. The closure cap of claim 1 or 5, ~~characte~~terized in that the underpressure valve body (13, 113) is integrated with the overpressure valve body (12, 112).

7. The closure cap of at least one of the foregoing claims, characterized in that the pressure- or transmitting element (54, 154) is embodied as a hollow or solid rod, along whose outer circumference the overpressure valve body (12, 112), prestressed

by an axial compression spring (44, 144), is guided.

8. The closure cap of at least one of the foregoing claims, characterized in that between an annular sealing seat for the overpressure valve body (12, 112), on a centrally pierced bottom (21, 121) of the inner cap element (15, 115), and the underside, remote from the axial compression spring (44, 144), of the overpressure valve body (12, 112), the liftable outer circumferential region of a sealing diaphragm (43, 143) is disposed, whose inner circumferential region brings about an overpressure sealing that is constantly axially operative for the overpressure valve body (12, 112) between the overpressure valve body (12, 112) and the elongated pressure- or temperature-transmitting element (54, 154).

9. The closure cap of claims 6 through 8, characterized in that the inner circumferential region (158) of the sealing diaphragm (143) can be lifted away counter to the action of a compression spring (166) that acts in the direction of an overpressure.

10. The closure cap of claim 9, characterized in that the inner circumferential region (158) of the sealing diaphragm (143) is pressed against a shoulder (156) of the elongated pressure- or temperature-transmitting element (154), and the compression spring (166) is braced on the bottom (138) of the inner cap element (15, 115).

11. The closure cap of at least one of claims 7 through 10, characterized in that the pressure- or pressure- transmitting element (54, 154) penetrates the bottom (38, 138) of the inner cap element (15, 115).

12. The closure cap of at least one of claims 7 through 11, characterized in that the pressure-transmitting element (54) has a through bore (56), whose inlet side, toward the container, discharges at the bottom (38) of the inner cap element (15), and whose outside, remote from the container, is covered by the diaphragm (50).

13. The closure cap of claims 1, 4 and 12, characterized in that the diaphragm (50), with its central region (51), is opposite the outlet side of the through bore (56), is fastened in place in pressure-proof fashion on the outer circumference, and on the inner circumference rests between the underside of the blocking plate (27) and the annular sealing face of the underpressure valve body (13).

14. The closure cap of claim 13, characterized in that the diaphragm (50) is fastened in place on the circumferential region of an end flange (57) of the pressure-transmitting element (54).

15. The closure cap of at least one of the foregoing claims, characterized in that the inner cap element (15, 115) has a centrally pierced false bottom (21, 121), on the top of which the flange (57), provided with the diaphragm (50), or the capsule made of expandable material (150) rests, and from whose underside the valve arrangement is suspended.

16. The closure cap of claim 3, characterized in that the blocking plate (27, 127) is connected nonrotatably but axially movably to the closure element (17, 117); and that radially outward-pointing prongs (28, 128) of the blocking plate (27, 127) become engaged between radially inward-pointing prongs (30, 130) of the grip element (18, 118).